

Title (en)
CHIP, DETECTION SYSTEM, AND GENE SEQUENCING METHOD

Title (de)
CHIP, DETEKTIONSSYSTEM UND GENSEQUENZIERUNGSVERFAHREN

Title (fr)
PUCE, SYSTÈME DE DÉTECTION ET PROCÉDÉ DE SÉQUENÇAGE DE GÈNES

Publication
EP 3626811 B1 20220406 (EN)

Application
EP 17892073 A 20171215

Priority

- CN 201710339668 A 20170515
- CN 2017116431 W 20171215

Abstract (en)
[origin: EP3626811A1] A chip, a detection system and a gene sequencing method are provided. When the chip is used for gene sequencing, sample genes and reversible terminating nucleotides are added into micropores and matched therein to release hydrogen ions such that a Nernst potential is induced on an ion-sensitive film surface, and a voltage is applied to the transparent electrode layer to generate an electric field, thereby controlling the switching layer to change its state, and then a base type of the genes is determined based on a type of reversible terminating nucleotide corresponding to information of light emitted from the switching layer upon changes in the state of the switching layer, thereby gene sequencing is achieved. The chip has a simple structure and low fabrication cost, and the reversible terminating nucleotides for matching sequencing require no fluorescent labeling, and optical systems such as a backlight source and a laser light source are unnecessary, which greatly reduces the cost and time for gene sequencing.

IPC 8 full level
C12M 1/38 (2006.01); **C12M 1/00** (2006.01); **C12Q 1/6874** (2018.01); **G01N 21/75** (2006.01); **G02F 1/137** (2006.01)

CPC (source: CN EP US)
C12Q 1/6837 (2013.01 - US); **C12Q 1/6869** (2013.01 - US); **C12Q 1/6874** (2013.01 - CN EP); **C12Q 2565/607** (2013.01 - US); **G02F 1/13718** (2013.01 - EP)

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
EP 3626811 A1 20200325; **EP 3626811 A4 20210303**; **EP 3626811 B1 20220406**; CN 107118960 A 20170901; CN 107118960 B 20191001; US 11168361 B2 20211109; US 2021164032 A1 20210603; WO 2018209944 A1 20181122

DOCDB simple family (application)
EP 17892073 A 20171215; CN 201710339668 A 20170515; CN 2017116431 W 20171215; US 201716072923 A 20171215